

and an amorphous phase that alters an optical path of the reproducing beam reflected from said phase change recording layer so as to prevent portions of the reproducing beam reflected from said phase change recording layer from passing through the one area that has converted between the crystalline and the amorphous state,

said phase change recording layer does not change phases when irradiated by the reproducing beam,

the recording beam has a different optical power as compared to the reproducing beam, and

the phase control layer comprises a material selected from the group consisting essentially of GeSbTe, InSbTe, and Ni.

18. (FOUR TIMES AMENDED) A phase change optical disc compatible with a recording beam and having multiple layers formed on a transparent substrate, the multiple layers including a reflective layer, comprising:

a phase change recording layer which converts between the crystal phase and the amorphous phase by irradiation with the recording beam; and

a phase control layer disposed between the transparent substrate and said phase change recording layer, said phase control layer having a plurality of areas defined in a laser spot, the laser spot defined by where the reproducing beam is incident to said phase control layer,

wherein:

the irradiation of the laser spot on said phase control layer with the reproducing beam causes a phase difference in the plurality of areas on said phase control layer due to ones of the plurality of areas being converted between a crystalline and an amorphous state that alters an optical path of the reproducing beam reflected from said phase change recording layer so as to prevent portions of the reproducing beam reflected from said phase change recording layer from passing through the ones of the areas that have converted between the crystalline and the amorphous state,

said phase change recording layer does not change phases when irradiated by the reproducing beam,

the recording beam has a different optical power as compared to the reproducing beam, and

the phase control layer comprises a material selected from the group consisting essentially of GeSbTe, InSbTe, and Ni.